

Rome, 24 April 2008

**GIOVE-B, the second satellite of the Galileo navigation system, is set to be launched. The Fucino Space Centre will manage the launch and early orbit phase and control of the satellite**

**Finmeccanica, with Telespazio, Thales Alenia Space and SELEX GALILEO, is playing a leading role in the development of Europe's most important space programme**

GIOVE-B will be launched at 00.16 CET on 27 April from the Baikonur base in Kazakhstan. It is the second experimental satellite of the Galileo constellation, the satellite navigation and localisation programme of the European Space Agency and the European Union.

The Launch and Early Operation Phase (LEOP) and control of the satellite will be managed by Telespazio's Fucino Space Centre, where one of the control centres of the Galileo constellation and mission is under construction.

Some very important tests for the validation of the technology to be used on the 30 Galileo satellites will be carried out on board GIOVE-B, which was assembled in Italy and in the laboratories of Thales Alenia Space. The most accurate atomic clock ever used in space, made by SELEX GALILEO, will also be tested; this will provide a major contribution to the performance of the entire system.

Finmeccanica, with the joint ventures Telespazio and Thales Alenia Space (which together are part of the Space Alliance created in 2007 with Thales) and with SELEX GALILEO, is playing a leading role in the development of the Galileo programme, contributing with its technological excellence and know-how to the most important European space programme.

### **The Galileo programme**

Galileo is the European satellite navigation system developed jointly by the European Union and the European Space Agency, and is the largest project ever developed by the European institutions. It will form the basis for a whole range of applications and services in sectors such as road, air, rail and sea transport, telecommunications, earth mapping/cartography, and gas/oil exploration and mining. Particular focus will be given to security and defence applications, such as the protection of ports, airports, railway stations and other sensitive locations, as well as to other important civil protection and rescue services for people and vehicles.

### **Telespazio's role**

Telespazio, a joint venture between Finmeccanica (67%) and Thales (33%), plays a key role in the development of the Galileo system. At Fucino, the world's biggest space station for civil telecommunications, one of the Control Centres (GCC) that will manage the Galileo constellation and mission is currently under construction. Telespazio will also have the task of setting up the Performance Assessment Centre for the Galileo system and signal. In Rome, Telespazio has played a key role in building the Galileo Test Range (Gtr), a permanent laboratory which will provide testing and

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**Finmeccanica** is Italy's leading high-tech company, operating in the design and manufacture of helicopters, defence electronics, civil and military aircraft, aerostructures, satellites, space infrastructures, missiles. It plays a leading role in the European aerospace and defence industry, and participates in some of the biggest international programmes in the sector through well-established alliances with European and American partners. Finmeccanica also boasts significant manufacturing assets and skills in the Transports and Energy sectors. The Group is listed on the Milan Stock Exchange, and operates in Italy and abroad through subsidiaries and joint ventures. It employs over 60,000 staff in total of which approximately 10,000 in UK, 3,500 in France and 2,000 in US. As part of its drive to maintain and build on its technological expertise, Finmeccanica spends 14% of its revenues on Research and Development.

support for the validation of the Galileo signal, and which will develop the navigation and positioning system, applications and equipment.

For the in-orbit validation (IOV) phase of the programme, currently under way, the company is prime contractor of the GIOVE-B mission, and will provide all the launch and early operation services for the second Galileo test satellite. Telespazio will also be responsible for managing the operational phase of the mission.

With regard to the European Geostationary Overlay Navigation System (EGNOS), Galileo's precursor, which integrates and improves the performance of navigation systems already in existence, Telespazio has been involved for several years in the development and testing of innovative services and applications. Specifically, Telespazio co-ordinated the testing of EGNOS services in real operating situations for the M-TRADE, METIS and MENTORE projects. The company has also developed applications and services for monitoring hazardous goods and radioactive waste, managing fleets of motor vehicles in urban areas (goods distribution, taxi fleets and regulated access in historic city centres).

### **Thales Alenia Space's role**

Thales Alenia Space, joint venture between Thales (67%) and Finmeccanica (33%), played a key role in the development of Galileo. From 2000 to 2003 the company designed the entire system architecture on behalf of the European Union, as well as the base architecture of the satellites for the European Space Agency (ESA). Thales Alenia Space is also the industrial prime contractor for EGNOS, the precursor of Galileo, leading a team of 50 partners in 11 European countries.

The company is prime contractor for the System and Engineering Segment as well as for the Ground Mission Segment. It also participates in the 4 Galileo IOV (In Orbit Validation) satellites construction, including strategic and complex parts such as the signal generators and security modules, thermal and mechanical structure, power subsystem and is responsible of the assembly, integration and test (AIT) of the full satellites in its Rome facility as well as their launch campaigns.

For GIOVE-B satellite, Thales Alenia Space's subsidiaries in Italy, Spain, Belgium and France contributed to the construction:

- Italy: Assembling phases of the satellite as well as operational platform and system tests; Environmental (vibration, shock, and mass properties) and thermo-vacuum tests; Launch campaign; Harness Subsystem and Telemetry & Telecommand Subsystem (TT&C),
- France: Structure Mechanical and Thermal design and production, using the Proteus platform heritage; Power subsystem and high efficiency Solar Arrays; Avionics specification and support,
- Spain: Development and supply of the Remote Terminal Unit (RTU) and the Clock Monitoring Control Unit (CMCU),
- Belgium: Provision of the Power Distribution Unit (PDU), the Power Conditioning Electronics (PCE), as well as the electrical test benches and ground support equipment (EGSE).

### **SELEX GALILEO's role**

The heart of the Galileo navigation constellation is the Passive Hydrogen Maser (PHM) and it will be supplied by Finmeccanica's SELEX GALILEO. Its precision (1 second over a period of time of 3 million years) allows the greatest positioning accuracy, up to less than 1 meter. The atomic clock has been developed in different phases in the framework of programmes funded by the European Space Agency. The physic package of the Maser, has been subcontracted to the Swiss company Spectra Time.

On board GIOVE-B, other equipment from SELEX GALILEO: the IRES-NE asset sensor and 6 SSPA covering 3 bands (from 1,19 to 1,57 GHz) for the transmission of the satellite signal. The overall value for the development, validation and production of the onboard equipment for GIOVE-B and for the first 4 satellites of the initial phase (In Orbit Validation – IOV) is about 36 million Euro.

